

SEQUENCE LISTING

<110> University of Rochester
Kool, Eric

<120> CIRCULAR DNA VECTORS FOR SYNTHESIS OF RNA AND DNA

<130> 220.00010142

<150> US 09/569,344

<151> 2000-05-11

<150> US 08/805,631

<151> 1997-02-26

<150> US 08/393,439

<151> 1995-02-23

<150> US 08/047,860

<151> 1993-04-15

<160> 129

<170> PatentIn version 3.1

<210> 1

<211> 34

<212> DNA

<213> Artificial Sequence

<220>

<223> linear precircle oligonucleotide

<400> 1
aaagaagagg gaagaaagaa aaggggtgga aaag 34

<210> 2

<211> 34

<212> DNA

<213> Artificial Sequence

<220>

<223> oligonucleotide product which has an MnlI enzyme cleavage site at its end

<400> 2
ttttccaccc cttttctttc ttccctcttc tttc 34

<210> 3

<211> 34

<212> DNA

<213> Artificial Sequence

<220>

<223> template circle

<400> 3
gaaagaagag ggaagaaaga aaaggggtgg aaaa 34

<210> 4

<211> 204

<212> DNA

<213> Artificial Sequence

<220>

<223> multimer

<400> 4
ttttccaccc cttttctttc ttccctcttc tttcttttcc accccttttc tttcttcctt 60
cttctttctt ttccaccctt tttctttctt cctctttctt tcttttccac cccttttctt 120
tcttccctct tctttctttt ccaccctttt tctttcttcc ctcttctttc ttttccaccc 180
cttttctttc ttccctcttc tttc 204

<210>	5	
<211>	26	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	circular template	
<400>	5	
	caaaaaaaaaa aaacaaaaaaaa aaaaaaa	26
<210>	6	
<211>	29	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	multimer	
<400>	6	
	tttgtttttt ttttttgttt ttttttttt	29
<210>	7	
<211>	12	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	resultant desired oligomer	
<400>	7	
	tttttttttt tt	12
<210>	8	
<211>	12	
<212>	DNA	
<213>	Artificial Sequence	

<220>

<223> linear sequence

<400> 8

aagaaagaaa ag

12

<210> 9

<211> 39

<212> DNA

<213> Artificial Sequence

<220>

<223> circular template

<400> 9

cttagagacg aagatcaaac gtctctaaga cttttcttt

39

<210> 10

<211> 117

<212> DNA

<213> Artificial Sequence

<220>

<223> multimer product

<400> 10

tcttagagac gtttgatctt cgtctctaag aaagaaaagt cttagagacg tttgatcttc

60

gtctctaaga aagaaaagtc ttagagacgt ttgatcttcg tctctaagaa agaaaag

117

<210> 11

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> desired oligomer

<400> 11

aagaaagaaa ag

12

<210> 12
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> product oligomer
<400> 12
tcttagagac gtttgatctt cgtctct

27

<210> 13
<211> 34
<212> DNA
<213> Artificial Sequence

<220>
<223> precircle
<400> 13
gatcagaaaa gaaagaagga ggaagaaaga aaag

34

<210> 14
<211> 34
<212> DNA
<213> Artificial Sequence

<220>
<223> circular template
<400> 14
gaaaagaaag aaggaggaag aaagaaaagg atca

34

<210> 15
<211> 44
<212> DNA
<213> Artificial Sequence

<220>

<223> multimer product

<400> 15

gatccttttc tttcttcctc cttctttctt ttctgaccc tttc

44

<210> 16

<211> 34

<212> DNA

<213> Artificial Sequence

<220>

<223> desired circular oligomer

<400> 16

ttctttcttt tctgaccc tttctttctc ctcc

34

<210> 17

<211> 39

<212> DNA

<213> Artificial Sequence

<220>

<223> multimer product

<400> 17

gatcagaaaa gaaagaagga ggaagaaaaga aaaggatca

39

<210> 18

<211> 34

<212> DNA

<213> Artificial Sequence

<220>

<223> oligomer

<400> 18

aaaagaaaaga aggaggaaga aagaaaagga tcag

34

<210> 19

<211> 34

<212> DNA

<213> Artificial Sequence

<220>

<223> oligomer

<400> 19

gacccctttc tttcttcctc cttctttctt ttct

34

<210> 20

<211> 33

<212> DNA

<213> Artificial Sequence

<220>

<223> product oligomer

<400> 20

cgagaaaaga aagaaggagg aagaaagaaa aga

33

<210> 21

<211> 34

<212> DNA

<213> Artificial Sequence

<220>

<223> circular template

<400> 21

gatcttttct ttcttcctcc ttctttcttt tctc

34

<210> 22

<211> 39

<212> DNA

<213> Artificial Sequence

<220>

<223> precircle

<400> 22
agacgaagat caaacgtctc taagactttt ctttcttag

39

<210> 23

<211> 31

<212> DNA

<213> Artificial Sequence

<220>

<223> circular oligomer

<220>

<221> misc_feature

<222> (4)..(23)

<223> a, g, c, or t

<400> 23
aggnnnnnnnn nnnnnnnnnn nnnaaaaaac c

31

<210> 24

<211> 31

<212> DNA

<213> Artificial Sequence

<220>

<223> circular oligomer

<220>

<221> misc_feature

<222> (12)..(31)

<223> a, g, c, or t

<400> 24
aaaaaaccag gnnnnnnnnn nnnnnnnnnn n

31

<210> 25

<220>		
<223>	ligation adaptor	
<400>	27	
	ttttctttct t	11
<210>	28	
<211>	42	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	circular template	
<400>	28	
	ctttcttctt tccttcgatt cttttcttct ttccttcgat tc	42
<210>	29	
<211>	58	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	circular template	
<400>	29	
	ctttcttctt tccttttctc gatcttttcc tttcttcttt ctttttctcg atcttttc	58
<210>	30	
<211>	74	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	circular template	
<400>	30	
	ctttcttctt tccttttctt tttcgatttt tcttttcttt tcttctttcc ttttcttttt	60
	cgatttttct tttc	74

<210>	31	
<211>	16	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	primer	
<400>	31	
	aggaaagaag aaagga	16
<210>	32	
<211>	18	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	primer	
<400>	32	
	tggttaacttc tgcgtcat	18
<210>	33	
<211>	41	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	template	
<220>		
<221>	misc_feature	
<222>	(18)..(37)	
<223>	a, g, c, or t	
<400>	33	
	tctcttcgac tctctctnnn nnnnnnnnnn nnnnnntct c	41

<210>	34	
<211>	41	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	circle library	
<220>		
<221>	misc_feature	
<222>	(18)..(37)	
<223>	a, g, c, or t	
<400>	34	
	tctcttcgac tctctctnnn nnnnnnnnnn nnnnnntct c	41
<210>	35	
<211>	34	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	circular template	
<400>	35	
	tcttttccc acccttttctt tcttctctct tctt	34
<210>	36	
<211>	12	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	primer	
<400>	36	
	aagaaagaaa ag	12

<210> 37
 <211> 34
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> primer
 <400> 37
 tttcttcctc cttctttctt ttccccacct tttc

34

<210> 38
 <211> 34
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> circle template
 <220>
 <221> misc_feature
 <222> (4)..(4)
 <223> m5c

<220>
 <221> misc_feature
 <222> (9)..(9)
 <223> m5c

<220>
 <221> misc_feature
 <222> (15)..(15)
 <223> m5c

<220>

<221>	misc_feature	
<222>	(20)..(20)	
<223>	m5c	
<220>		
<221>	misc_feature	
<222>	(24)..(24)	
<223>	m5c	
<220>		
<221>	misc_feature	
<222>	(34)..(34)	
<223>	m5c	
<400>	38	
	tttnttttnt cgatnttttn tttntttttt tttn	34
<210>	39	
<211>	20	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	optimized T7 RNA polymerase promoter site	
<400>	39	
	ccctatagtg agtcgtatta	20
<210>	40	
<211>	53	
<212>	DNA	
<213>	Artificial sequence	
<220>		
<223>	53mer circle	

<400> 40	tttcttcccc cgaagaaaag agaaggagag agatccctag agagaggaag act	53
<210> 41		
<211> 53		
<212> RNA		
<213> Artificial Sequence		
<220>		
<223> stem-loop multimer which binds HIV-1 gag RNA		
<400> 41	gggaagaaaa gucuuccucu cucuagggau cucucuccuu cucuuuucuu cgg	53
<210> 42		
<211> 53		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> 53 circle		
<400> 42	tttcttcccc cgaagaaaag aataaggaag aagcctccga agaaggaaca act	53
<210> 43		
<211> 53		
<212> RNA		
<213> Artificial Sequence		
<220>		
<223> stem-loop multimer which binds to bcr-abl mRNA		
<400> 43	gggaagaaaa guuguuccuu cuucggaggc uucuuccuua uucuuuucuu cgg	53
<210> 44		
<211> 45		
<212> DNA		

<213> Artificial Sequence

<220>

<223> 45 circle

<400> 44

ttatttagac ttaaataagt tcctcaacat ccttcgatgg agccc

45

<210> 45

<211> 45

<212> RNA

<213> Artificial Sequence

<220>

<223> hairpin multimer which binds HIV-1 rev protein

<400> 45

ucuaaaauaag ggcuccaucg aaggauuguu aggaacuuau uuaag

45

<210> 46

<211> 49

<212> DNA

<213> Artificial Sequence

<220>

<223> circle

<400> 46

ttttgaacta gagttttcgg ctttcgcctc ttcagaaaaag ccctctctc

49

<210> 47

<211> 49

<212> RNA

<213> Artificial Sequence

<220>

<223> multimer RNA transcript

<400> 47

	gagggcuuuu cugaagaggc gaaagccgaa aacucuaguu caaaagaga	49
	<210> 48	
	<211> 49	
	<212> RNA	
	<213> Artificial Sequence	
	<220>	
	<223> monomeric ribozyme complementary to K28 junction in chronic myeloid leukemia (Philadelphia Chromosome mutation)	
	<400> 48	
	aaaagagaga gggcuuuucu gaagaggcga aagccgaaaa cucuaguuc	49
	<210> 49	
	<211> 15	
	<212> RNA	
	<213> Artificial Sequence	
	<220>	
	<223> Philadelphia chromosome mRNA	
	<400> 49	
	agagucaaaa agccc	15
	<210> 50	
	<211> 49	
	<212> RNA	
	<213> Artificial Sequence	
	<220>	
	<223> monomeric ribozyme	
	<400> 50	
	aaaagagaga gggcuuuucu gaagaggcga aagccgaaaa cucuaguuc	49
	<210> 51	
	<211> 83	
	<212> DNA	

<213> Artificial Sequence

<220>

<223> AS83 nanocircle

<400> 51

gttccgactt tccgactctg agtttcgact tgtgagagaa ggatctcttg atcacttcgt 60

ctcttcaggg aaagatggga gat 83

<210> 52

<211> 83

<212> DNA

<213> Artificial Sequence

<220>

<223> H83 nanocircle

<400> 52

gttccgagtt ttggaccgtt ggtttcgact tgtgagagaa ggatctcttg atcacttcgt 60

ctcttcagca aaatatggga gat 83

<210> 53

<211> 10

<212> RNA

<213> Artificial Sequence

<220>

<223> catalytic H83 transcription product

<400> 53

cgguccaaaa 10

<210> 54

<211> 25

<212> RNA

<213> Artificial Sequence

<220>

<223> catalytic H83 transcription product

25

<400> 54
uuuugcugaa gagacgucga aacaa

<210> 55

<211> 83

<212> DNA

<213> Artificial Sequence

<220>

<223> non-autolytic AH83 chimera

<400> 55
gttccgactt tccgactgtt ggtttcgact tgtgagagaa ggatctcttg atcacttcgt

60

83

ctcttcagca aaatatggga gat

<210> 56

<211> 10

<212> RNA

<213> Artificial Sequence

<220>

<223> catalytic AH83 transcription product

10

<400> 56
cagucgaaa

<210> 57

<211> 25

<212> RNA

<213> Artificial Sequence

<220>

<223> catalytic AH83 transcription product

25

<400> 57
uuuugcugaa gagacgucga aacca

<210> 58

<211> 83
 <212> RNA
 <213> Artificial Sequence

 <220>
 <223> string of hammerhead-motif RNAs

 <400> 58
 cuucucucac aagucgaaac ucagagucgg aaagucggaa caucucccau cuuucccuga 60
 agagacgaag ugaucaagag auc 83

 <210> 59
 <211> 83
 <212> RNA
 <213> Artificial Sequence

 <220>
 <223> monomeric hammerhead-motif RNA

 <400> 59
 ggaaagucgg aacaucuccc aucuuucccu gaagagacga agugaucaag agauccuucu 60
 cucacaaguc gaaacucaga guc 83

 <210> 60
 <211> 73
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> nanocircle vector

 <400> 60
 gaaaactgga ctacagggag gtaccaggta atgtaccaca acgtgtgttt ctctggtctg 60
 cttctcagga atc 73

 <210> 61
 <211> 73
 <212> RNA

<213> Artificial Sequence

<220>

<223> circular monomer

<400> 61
gauuccugag aagcagacca gagaaacaca cguuguggua cauuaccugg uaccuccug 60
uaguccaguu uuc 73

<210> 62

<211> 41

<212> DNA

<213> Artificial Sequence

TESEETTTT

<220>

<223> oligomer

<400> 62
gagatgttcc gactttccga ctctgagttt cgacttgtga g 41

<210> 63

<211> 42

<212> DNA

<213> Artificial Sequence

<220>

<223> oligomer

<400> 63
agaaggatct cttgatcact tcgtctcttc agggaaagat gg 42

<210> 64

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> splint oligonucleotide

30

<400> 64
aagtcggaac atctcccatc tttccctgaa

<210> 65

<211> 30

<212> DNA

<213> Artificial sequence

<220>

<223> splint oligonucleotide

30

<400> 65
tcaagagatc cttctctcac aagtcgaaac

<210> 66

<211> 83

<212> RNA

<213> Artificial sequence

<220>

<223> AS83 vector monomer

60

<400> 66
ggaaagucgg acaucuccc aucuuuccu gaagagacga agugaucaag agauccuucu
cucacaaguc gaaacucaga guc

83

<210> 67

<211> 83

<212> RNA

<213> Artificial sequence

<220>

<223> H83 vector monomer

60

<400> 67
caaaacucgg acaucuccc auauuuugcu gaagagacga agugaucaag agauccuucu
cucacaaguc gaaaccaacg guc

83

<210> 68

23

<223> half-length oligonucleotide 35

<400> 71
acaacgtgtg tttctctggt ctgcttctca ggaat

<210> 72

<211> 14

<212> RNA

<213> Artificial sequence

<220>

<223> sequences of HIV-1 pol gene

14

<400> 72
cuguagucca ggaa

<210> 73

<211> 56

<212> DNA

<213> Artificial sequence

<220>

<223> circular ssDNA library constituent oligonucleotide

<220>

<221> misc_feature

<222> (9)..(48)

<223> a, g, c, or t

<400> 73
ttcgtctgnn nnnnnnnnnn nnnnnnnnnn nnnnnnnntc tttcag

56

<210> 74

<211> 47

<212> DNA

<213> Artificial sequence

<220>

<223>	circular ssDNA library constituent oligonucleotide	
<400>	74	
	tttcgtcctc acggactcat cagaatggca acacattgac tgaggag	47
<210>	75	
<211>	18	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	primer	
<400>	75	
	gactgaggag ttcgtctg	18
<210>	76	
<211>	18	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	primer	
<220>		
<221>	misc_feature	
<222>	(1)..(1)	
<223>	deoxyadenosine with 1-Dimethoxytrityloxy-2-(N-biotinyl-4-aminobutyl)-propyl-3-O-(2-cyanoethyl)-(N,N-diisopropyl)-phosphoramidite on its 5' phosphate group	
<400>	76	
	natgtgttgc cattctga	18
<210>	77	
<211>	24	
<212>	DNA	
<213>	Artificial Sequence	

<220>		
<223>	splint	
<400>	77	
	aactcctcag tcaatgtgtt gccca	24
<210>	78	
<211>	58	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	circular ssDNA	
<400>	78	
	gactgaggag ttcgtctggc aacgaatcag actcttttcgg tgacattgcc cagtttat	58
<210>	79	
<211>	45	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	circular ssDNA	
<400>	79	
	tcttttcagtt tcgtcctcac ggactcatca gaatggcaac acatt	45
<210>	80	
<211>	58	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	circular ssDNA	
<400>	80	
	gactgaggag ttcgtctggc cacgatctga atagtcgttc atcctcagcg gtagcgaa	58

<210>	81	
<211>	45	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	circular ssDNA	
<400>	81	
	tctttcagtt tcgtcctcac ggactcatca gaatggcaac acatt	45
<210>	82	
<211>	58	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	circular ssDNA	
<400>	82	
	gactgaggag ttcgtctggt aaagtatggt gctacgactt ctttatttac cacgatgc	58
<210>	83	
<211>	45	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	circular ssDNA	
<400>	83	
	tctttcagtt tcgtcctcac ggactcatca gaatggcaac acatt	45
<210>	84	
<211>	35	
<212>	DNA	
<213>	Artificial Sequence	

<220>		
<223>	circular ssDNA	
<400>	84	
	gactgaggag ttcgtctgtc tttcagtttc gtcct	35
<210>	85	
<211>	28	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	circular ssDNA	
<400>	85	
	cacggactca tcagaatggc aacacatt	28
<210>	86	
<211>	58	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	circular ssDNA	
<400>	86	
	gacactggag ttcgtctggt aaagtatggt gctacgactt ctttatttac cacgatgc	58
<210>	87	
<211>	45	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	circular ssDNA	
<400>	87	
	agaaagtgtt tcgtcctcac ggactcatca gagagcgttc actct	45
<210>	88	

<211> 0

<212> DNA

<213> Skipped sequence

<400> 88
000

<210> 89

<211> 44

<212> DNA

<213> Artificial sequence

<220>

<223> circular ssDNA

44

<400> 89
agaaagtgtg tcgtcctcac ggactcatca gagagcgttc actc

<210> 90

<211> 60

<212> DNA

<213> Artificial sequence

<220>

<223> circular ssDNA

<220>

<221> misc_feature

<222> (11)..(50)

<223> a, g, c, or t

<400> 90
agttcgtctg nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn agaaagtgtt 60

<210> 91

<211> 43

<212> DNA

<213> Artificial Sequence

<220>

<223> circular ssDNA

43

<400> 91
tcgtcctcac ggactcatca gagagcggtc actctgacac tgg

<210> 92

<211> 35

<212> DNA

<213> Artificial Sequence

<220>

<223> circular ssDNA

35

<400> 92
ggactctggag ttcgtctgag aaagtgtttc gtcct

<210> 93

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> circular ssDNA

28

<400> 93
cacggactca tcagagagcg ttcactct

<210> 94

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> primer

29

<400> 94
aggtcgacta tggagaaaaa aatcactgg

30

<210>	95	
<211>	27	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	primer	
<400>	95	
	ggtaccctaaa aggccatccg tcaggat	27
<210>	96	
<211>	81	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	primer	
<400>	96	
	cccaagcttg tcaactggaga aagtgtcaga gcgttcgggt tactccaaat ggcacctgca	60
	aatggagaaa aaaatcactg g	81
<210>	97	
<211>	29	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	primer	
<400>	97	
	gggggtaccctaa aaaggccatc cgtcaggat	29
<210>	98	
<211>	22	
<212>	DNA	

<213> Artificial Sequence

<220>

<223> primer

<400> 98

gtatatccag tgattttttt ct

22

<210> 99

<211> 17

<212> DNA

<213> Artificial Sequence

<220>

<223> primer

<400> 99

atgaccatga ttacgcc

17

<210> 100

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> primer

<400> 100

agagcgttcg ggttactcca

20

<210> 101

<211> 103

<212> DNA

<213> Artificial Sequence

<220>

<223> single-stranded nanocircle containing 40nt of randomized sequence
, and 63nt fixed sequence encoding a hammerhead ribozyme

<220>

<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	E38 motif II	
<400>	105	
	gycacgatct gaatagtcgt tcatcctyag cggtagcgaa	40
<210>	106	
<211>	0	
<212>	DNA	
<213>	Skipped Sequence	
<400>	106	
	000	3
<210>	107	
<211>	0	
<212>	DNA	
<213>	Skipped Sequence	
<400>	107	
	000	3
<210>	108	
<211>	40	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	nucleotide sequence containing E15 motif III	
<400>	108	
	gcttaaggat taattgcatg ttattcttta ggagcctcga	40
<210>	109	
<211>	40	

<212> DNA

<213> Artificial Sequence

<220>

<223> nucleotide sequence containing E15 motif III

<400> 109

gtaaagtatg ttgctacgac ttctttatgt accacgatgc

40

<210> 110

<211> 0

<212> DNA

<213> Skipped Sequence

<400> 110

000

<210> 111

<211> 40

<212> DNA

<213> Artificial Sequence

<220>

<223> selected nucleotide sequence

<400> 111

gagcagtggc caactgacgg cttcgaaatg atatgcagcg

40

<210> 112

<211> 40

<212> DNA

<213> Artificial Sequence

<220>

<223> selected nucleotide sequence

<400> 112

tatgacgata ggattagacg tgtgggggta ttttcactac

40

<210> 113
<211> 40
<212> DNA
<213> Artificial Sequence

<220>
<223> selected nucleotide sequence
<400> 113
gtctcactcg gaggaggagt ctgacaagat gggatgctgc

40

<210> 114
<211> 40
<212> DNA
<213> Artificial Sequence

<220>
<223> selected nucleotide sequence
<400> 114
ggatttgcag actatttagc ctctgagagc cagaacggtc

40

<210> 115
<211> 39
<212> DNA
<213> Artificial Sequence

<220>
<223> selected nucleotide sequence
<400> 115
gagtggtaag tactgggagc cactcacgac aacgaacaa

39

<210> 116
<211> 40
<212> DNA
<213> Artificial Sequence

<220>

<223> selected nucleotide sequence

<400> 116

gtgctattcg tggctatact gttaatgtgt cgcaccattc

40

<210> 117

<211> 40

<212> DNA

<213> Artificial Sequence

<220>

<223> selected nucleotide sequence

<400> 117

ggccccgttt aggtacaatc acatgtacta gcgttgtggt

40

<210> 118

<211> 40

<212> DNA

<213> Artificial Sequence

<220>

<223> selected nucleotide sequence

<400> 118

gtagggtaaa tatccttctc gtatgaccgt ggaagacgtc

40

<210> 119

<211> 40

<212> DNA

<213> Artificial Sequence

<220>

<223> selected nucleotide sequence

<400> 119

ggatgcgtag cgtaaagcgt tcgtatctcg aggtaagctt

40

<210> 120

<211> 40
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> selected nucleotide sequence
 <400> 120
 gagccatgga gcatactagt tgaactctag cttctagtcc 40

 <210> 121
 <211> 103
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> E1
 <400> 121
 gactgaggag ttcgtctggc aacgaatcag actctttcgt ttacattgcc cagtttattc 60
 tttcagtttc gtcctcacgg actcatcaga atggcaacac att 103

 <210> 122
 <211> 103
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> E15
 <400> 122
 gactgaggag ttcgtctggt aaagtatggt gctacgactt ctttattttac cacgatgctc 60
 tttcagtttc gtcctcacgg actcatcaga atggcaacac att 103

 <210> 123
 <211> 103
 <212> DNA
 <213> Artificial Sequence

<220>

<223> E38

<400> 123

gactgaggag ttcgtctggc cacgatctga atagtcgttc atcctcagcg gtagcgaatc 60

tttcagtttc gtcctcacgg actcatcaga atggcaacac att 103

<210> 124

<211> 13

<212> RNA

<213> Artificial Sequence

Q<220>

Q<223> marA cleavage site

Q<400> 124

Qaagugucaga gcg 13

Q<210> 125

Q<211> 103

Q<212> RNA

Q<213> Artificial Sequence

T<220>

<223> active marA

<400> 125

agagugaacg cucucugaug aguccgugag gacgaaacac uuucugcauc gugguaaaua 60

aagaagucgu agcaacauac uuuaccagac gaacuccagu guc 103

<210> 126

<211> 103

<212> RNA

<213> Artificial Sequence

<220>

<223> inactive marA

TESEZ6660
60997931
T00ETT

<400> 126
agagugaacg cucucugaug aguccgugag gacgacacac uuucugcauc gugguaaaua 60
aagaagucgu agcaacauac uuuaccagac gaacuccagu guc 103

<210> 127

<211> 63

<212> RNA

<213> Artificial Sequence

<220>

<223> short marA

<400> 127
agagugaacg cucucugaug aguccgugag gacgaaacac uuucucagac gaacuccagu 60
guc 63

<210> 128

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> probe

<400> 128
ctccctgtag tccagttttc g 21

<210> 129

<211> 73

<212> DNA

<213> Artificial Sequence

<220>

<223> DNA template encoding self-processing haripin ribozyme

<400> 129
ttcctgagaa gtcaaccaga gaaacacacg ttgtggtaca ttacctgga cctccctgta 60
gtccagtttt cga 73